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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/513,964	11/10/2004	Haruki Kodama	0303-0491PUS1	9792

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EXAMINER
ZIMMERMAN, JOHN J

ART UNIT	PAPER NUMBER
1775	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/513,964

Applicant(s)

KODAMA ET AL.

Examiner

John J. Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/10/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 20041110, 20050124, 20050729.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_.

## **FIRST OFFICE ACTION**

### ***Preliminary Amendment***

1. The "FIRST PRELIMINARY AMENDMENT" filed with this application has been entered. Claims 1, 4 and 7 are pending in this application.

### ***Priority***

2. Copies of the certified copies of the foreign priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

### ***Information Disclosure Statement***

3. The information disclosure statement submitted November 10, 2004 was not considered since it was replaced by the information disclosure statement received January 24, 2005. The information disclosure statement received July 29, 2005 has been considered. Signed forms PTO-1449 are enclosed with this First Office Action.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: Applicant may wish to remove the reference numeral "(10)" from line 4 of claim 1. Appropriate correction is requested.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 4 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 4 (e.g. last two lines) fails to disclose any compositions for the "parting agent" and the "surface active agent" and a review of the applicant's specification fails to discover any description of compositions for these agents or guidance as to how to determine the suitable composition of these agents. In view of the fact that specific amounts of the parting agent and surface active agent are required by ranges in the claims and in the specification, it would be evident to one of ordinary skill in the art that the claimed ranges are integral to specific compositions.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaku (U.S. Patent 4,154,900).

8. Kaku discloses a method of casting aluminum onto a ferrous part having undercut portions (e.g. claim 8). Kaku discloses that composite aluminum and ferrous metal composites are made for cylinders of internal combustion engines (e.g. see column 1, lines 20-21) and Kaku also further discloses that prior art projections have their tip ends deformed or flattened so as to increase bonding force (e.g. see Figure 1 and column 3, lines 10-14) but that the operations for creating these embodiments were difficult. The prior art projections shown in Figure 1 appear to have substantially conical undercuts which progressively spread outwardly from the surface. Although the distal ends of the prior art projections are described by Kaku as "flattened", they do not appear to be "flattened" to the extent of having "flat" faces as recited in applicant's claim 1, line 8, there is no evidence of record that shows that the claimed flat configurations are anything more than ones of numerous patentably indistinct flattened configurations that a person of ordinary skill in the art would find obvious for the same purpose as Kaku's prior art. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). See MPEP 2144.04. In view of Kaku, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use flattened projections, such as those shown in Kaku's Figure 1, for cast composite cylinder liners because Kaku clearly shows that such configurations are obvious for ensuring good bonding between the materials even if their manufacture is described by Kaku as "somewhat difficult". A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d

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804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998). Although it is noted that Kaku's flattened projections are described by Kaku as prior art, the use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain. *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). See MPEP 2123.

9. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaku (U.S. Patent 4,154,90) as applied to claim 1 above, and further in view of Takeo (U.S. Patent Application Publication 2002/0157571).

10. Kaku is described above. Kaku may differ from claims 4 and 7 in that Kaku may not use the same facing material and rotational mold parameters. Takeo, however, clearly shows that current internal combustion engine cylinder sleeve casting methods include using centrifugal casting molds using mold releasing agents comprising a binder (e.g. bentonite), a heat insulating agent (e.g. diatomaceous earth), a solvent and a surface active agent (e.g. see Table 1 for specific weight percentages of the compositions). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the centrifugal casting molds and compositions of Takeo to manufacture the cylinder liner of Kaku because Takeo shows that these types of

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molds and release compositions are particularly suitable for modern day manufacture of cylinder liners.

11. Claims 1, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeo (U.S. Patent Application Publication 2002/0157571).

12. Takeo discloses that current internal combustion engine cylinder sleeve casting methods include using centrifugal casting molds using mold releasing agents comprising a binder (e.g. bentonite), a heat insulating agent (e.g. diatomaceous earth), a solvent and a surface active agent (e.g. see Table 1 for specific weight percentages of the compositions). Takeo also shows that these compositions form crater shaped recessed holes and that these result in fine protrusions that serve as anchors when molten metal is cast against the cylinder sleeve (e.g. see paragraphs [0021]-[0022]). Although Takeo does describe the protrusions as having "flat" faces as recited in applicant's claim 1, line 8, there is no evidence of record that shows that the claimed flat configurations are anything more than ones of numerous patentably indistinct protrusion configurations that a person of ordinary skill in the art would find obvious for the same purpose as described by Takeo. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). See MPEP 2144.04. In any event, the process of Takeo appears to essentially mirror the process and compositions used by applicant and the Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection

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based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). Regarding the specific weight ranges for the components of the releasing agent of Takeo, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results, see *In re Aller, et al.*, 105 U.S.P.Q. 233. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 USPQ 549.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art made of record serves to further establish the level of ordinary skill in the art at the time the invention was made.

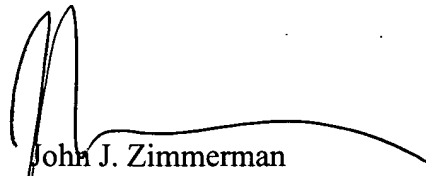
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Jennifer McNeil



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can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John J. Zimmerman  
Primary Examiner  
Art Unit 1775

jjz  
September 17, 2006